

things, cannot be despised with impunity; and, whether we consider the effects of its teachings in the abstract, or as applied to practical labours, we are equally persuaded of its high importance.

It will soon be necessary to supply the towns near the gold-fields with water sufficient for machinery and sanitary purposes, and therefore minute observations in meteorology in all these localities, have become of greater importance than ever.\* If commenced at once they may be the means of preventing endless disputes, and possibly saving a large expenditure of public money.

I have the honour to be, Sir,

Your most obedient, humble servant,

R. BROUGH SMYTH.

Capt. Clarke, R.E., M.L.C.,  
President of the Philosophical Society of Victoria,  
&c. &c. &c.

ART. XVII.—*A Description of Fossil Animalculæ in Primitive Rocks from the Upper Yarra District.* By WILLIAM BLANDOWSKI, ESQ.

I HAVE the honour to lay before the members of the Philosophical Society, a few specimens of rocks, containing minute fossil remains, forwarded to the Society through me, by Fred. Acheson, Esq.; having been discovered by that gentleman, on the left bank of Anderson's Creek, about a mile from the junction of that stream with the Yarra Yarra.

These specimens were procured from a vein about fifteen inches in thickness, inclosed between layers of hard blue slate, inclined at an angle of 75 degrees southward. They are chiefly composed of coarse porous quartz, but those specimens procured from larger blocks, or at a greater depth, are dense and of a blue colour. In this state the rock assumes a crystalline appearance, much resembling marble, and is dotted with numerous specks of iron pyrites, which, becoming decomposed by the action of the atmosphere, result in the

\* Since writing the above, I learn that Captain Clarke is about to establish a system of Meteorological Observations, at the various Survey Offices throughout the Colony, in connexion with the Observatory already established in Melbourne. This is a step in the right direction; such observations can be conducted inexpensively, and with much accuracy, without any large sacrifice of time on the part of the observers.

formation of iron oxyde. The sulphite, too, decomposing the lime of the encrinities and corals, destroys the colour and crystalline appearance of the rock. Thus rendered porous, it obtains a rough surface, and a brownish colour (imparted to it by the oxide of iron). The multitudes of very minute fossil remains which this rock contains, and which have been alluded to above, with a few exceptions, can be detected only by the aid of a powerful glass. Those which are of sufficient magnitude to be perceived by the naked eye are inhabitants of the deeper parts of the ocean; and, judging from their diminutive proportions, I should suppose them to belong to the most primary era of organic life—the harbingers of those higher orders of existences which, after the lapse of countless millions of ages, now people the altered surface of our planet.

The forms which I have been able to recognise in these remains are:—

*Cyatocrinites* (probably) *pinnatus*, (*vide* plate). This species, whose habitat is the tropical seas, belongs to the family *Trochyten* (*Echinodermata*). The animal manifestly attached itself to rocks and other solid bodies at a vast depth, beyond the influence of the turbulent waves which agitate the surface of the ocean. Not possessing the full power of locomotion, but capable only of swaying to and fro, lashed, as it were, to the rock, they depended on procuring prey by the motion of their long fringed arms, which also served as an additional means of security in retaining their immutable position. None of the remains under consideration are so perfectly distinct as to enable me to discover any signs of the caput, or of the roots of these remarkable animals. The trunk consists of a long jointed column, only small portions of which, about a quarter of an inch in length, are at all distinguishable. A hollow channel or central orifice passes longitudinally through this column; both the upper and lower surfaces of the joints around it are replete with dichotomous ribs.

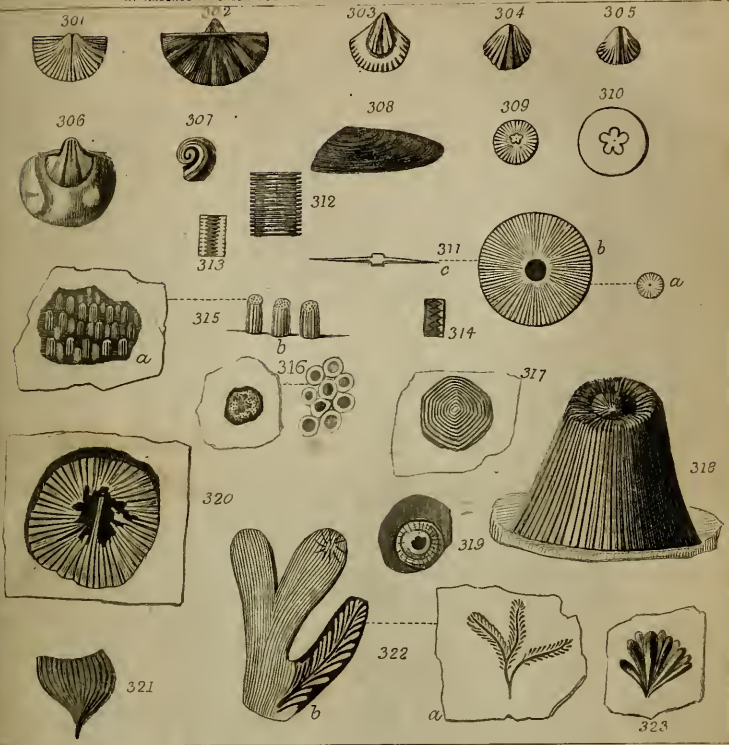
The rarity of the encrinite in the modern seas is a circumstance of a very remarkable nature; when we consider the immense number of fossil species already discovered, and find whole masses of rock consisting of their reliquia. At an earlier period of the existence of our planet, when a high degree of temperature favoured the propagation of beings, of which only rare analogies now obtain in the tropics, encrinities swarmed the ocean, and were the original cause of the deposition of the calcareous rocks.

# FOSSILS OF VICTORIA

SILURIAN FORMATION

V. CALCIFEROUS SANDSTONE ROCK

AT ANDERSONS CREEK GOLD FIELD 30 MILES E FROM MELBOURNE



## VI. QUARTZOSE SANDSTONE

AT ME IVOR GOLD FIELD 60 M N FROM MELBOURNE

